Nos. 70-1429, and 79-1583

IN THE

Supreme Court of the United States

OCTOBER TERM, 1980

AMERICAN TEXTILE MANUFACTURERS INSTITUTE, INC., *et al.*,
Petitioners

v.

RAY MARSHALL, SECRETARY OF LABOR,
Respondent.

NATIONAL COTTON COUNCIL OF AMERICA, *et al.*,
Petitioners

v.

RAY MARSHALL, SECRETARY OF LABOR, *et al.*,
Respondent.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF FOR BROWN LUNG ASSOCIATION, INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA, UAW, AMERICAN PUBLIC HEALTH ASSOCIATION, ET AL., AS AMICI CURIAE

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AMICI CURIAE

BROWN LUNG ASSOCIATION
INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA, UAW
AMERICAN PUBLIC HEALTH ASSOCIATION
AMERICAN FRIENDS SERVICE COMMITTEE
CATHOLIC COMMITTEE OF APPALACHIA
COALITION OF LABOR UNION WOMEN
DOMESTIC EQUALITY PROGRAM—INTERFAITH CENTER FOR CORPORATE RESPONSIBILITY
EXECUTIVE COMMITTEE OF NATIONAL ASSOCIATION OF WOMEN RELIGIOUS
WOMEN'S DIVISION, BOARD OF GLOBAL MINISTRIES, THE UNITED METHODIST CHURCH
METHODIST FEDERATION FOR SOCIAL ACTION
NATIONAL ASSEMBLY OF WOMEN RELIGIOUS
WOMEN FOR RACIAL AND ECONOMIC EQUALITY
NATIONAL ORGANIZATION FOR WOMEN—LABOR COMMITTEE
NATIONAL FEDERATION OF PRIESTS' COUNCIL

QUESTIONS PRESENTED

(1) Does the Occupational Safety and Health Act, 29 U.S.C. § 651 et seq. require the Secretary of Labor to engage in a cost benefit analysis prior to promulgation of a work place toxic substance exposure standard?

(2) Does the Occupational Safety and Health Act, 29 U.S.C. § 651 et seq. permit the Secretary of Labor to control exposure to hazardous substances prior to the onset of disease?

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INTEREST OF AMICI

BROWN LUNG ASSOCIATION is an organization of active and disabled textile workers in North Carolina, South Carolina, Virginia, and Georgia. The Association was formed five years ago with the purpose of assisting workers disabled from breathing cotton dust, educating workers still at risk in the mills about the hazards of cotton dust, and advocating for cleaner mills.

INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA, UAW, is the largest union representing workers in the automobile industry and has a long standing commitment to health and safety for workers in all industries.

AMERICAN PUBLIC HEALTH ASSOCIATION is a non-profit corporation which maintains a membership of 30,000 public health professionals throughout local, state, and federal levels.

CATHOLIC COMMITTEE OF APPALACHIA is a Catholic commission serving 13 states including both North Carolina and South Carolina committed to assisting workers in health and safety rights.

NATIONAL FEDERATION OF PRIESTS' COUNCILS is an organization representing 82 councils of priests, 9 associations and 9 religious orders, and has long been interested in the rights of workers.

BOARD OF GLOBAL MINISTRIES—THE UNITED METHODIST CHURCH is an organization of ministers and lay persons committed to working for improved health and safety.

AMERICAN FRIENDS SERVICE COMMITTEE is an organization dedicated to humanitarian relief and to educate workers about their rights to a healthy and safe work environment.

COALITION OF LABOR UNION WOMEN is an organization of women who are involved in trade union and occupational issues.

DOMESTIC EQUALITY PROGRAM—INTERFAITH CENTER FOR CORPORATE RESPONSIBILITY is a coalition of religious institutional investors who are interested in health and safety.

NATIONAL ASSEMBLY OF WOMEN RELIGIOUS—EXECUTIVE COMMITTEE is an organization of nuns

and lay persons concerned for the health of workers and for sound environmental standards.

METHODIST FEDERATION FOR SOCIAL ACTION is an independent fellowship concerned about workers' health and safety.

NATIONAL ORGANIZATION FOR WOMEN—LABOR COMMITTEE is the official committee dedicated to issues concerning women in the work place.

CONSENT OF THE PARTIES

Counsel of record in both cases consented to the filing of this brief. Consent letters have been filed with this brief. Consent was sought from individual corporate counsel and was granted by reference to Counsel of Record. In three instances counsel was unavailable.

STATEMENT OF THE CASE

Petitioners including representatives of the cotton textile and nontextile industries have sought judicial review of the Court of Appeals for the District of Columbia's decision [1] upholding the Standard for Occupational Exposure to Cotton Dust (Cotton Dust Standard or Standard), promulgated by the Occupational Safety and Health Administration (OSHA) to protect over 800,000 of the nation's textile workers, many of whom suffer from a crippling disease known as byssinosis or "brown lung". This Court granted Petitioners' motion for a writ of certiorari on October 6, 1980.

HISTORY OF THE COTTON DUST STANDARD

Cotton dust results from the manufacture of cotton cloth. It can cause chronic disabling respiratory ailments and even lead to the death of overexposed workers through stress-related heart failure. NIOSH, *Criteria for a Recommended Standard Occupational Exposure to Cotton Dust*, 26 (1974). It was only after pressure by the Textile Workers Union that OSHA undertook an ex-

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[1] *AFL-CIO* v. *Marshall*, 617 F.2d 638 (D.C. Cir. 1980).

haustive analysis of the health problems related to cotton dust. 43 Fed. Reg. 27351. The results impelled OSHA to finally regulate permissible levels of exposure to the substance. *Id.*

The severe health problems related to cotton dust in cloth manufacture have been fully documented since the middle of this century. In 1942, byssinosis was recognized as a compensable ocupational disease under British statutes. 43 Fed. Reg. 27351. In 1950, Dr. Schilling published his landmark work on the symptomology of byssinosis, which remains a standard reference. Ex. 38A, p. 5.

Acknowledgement of the hazards of cotton dust by American industry came much more slowly. By 1961, two British scientists had documented the existence of byssinosis in American textile mills, and had called for a comprehensive survey of the problem. Ex. 77, pp. 4-5. When the U.S. Public Health Service commissioned Dr. Arend Bouhuys in 1964 to perform such a study, the response of the Georgia textile industry was an attempt to abort the study by applying pressure on the president of the university at which Dr. Bouhuys was teaching, and by denying Dr. Bouhuys access to the mills. Dr. Bouhuys was forced to conduct his study in the mill at the U.S. penitentiary in Atlanta, from which the industry could not exclude him. Ex. 77, p. 5; Ex. 78, App. 4, p. 2.

In 1967, Dr. Bouhuys reported that:

> "all cotton workers seen [in this study] who had been exposed for many years to dust in cardrooms, had byssinosis, and more than half of them were respiratory cripples." Ex. 77, p. 6.

Sixteen years ago, the American Conference of Governmental Independent Hygienists (ACGIH) decided cotton dust should be controlled and placed cotton dust on its priority list. In 1966, the ACGIH adopted a TLV [2]

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[2] TLV stands for Threshold Limit Value.

of 1,000 ug/m³ of total cotton dust. Two years later the Secretary of Labor, acting pursuant to the Walsh-Healy Act, 41 U.S.C. § 5 et seq., promulgated the ACGIH standard as an occupational health requirement for public contractors. 43 Fed. Reg. 27351. Yet, industry refused to acknowledge the existence of byssinosis and its hazards to American workers.[3] *See* Ex. 77. pp. 6-7.

On September 26, 1974, the National Institute of Occupational Safety and Health (NIOSH) recommended that the Secretary adopt a cotton dust standard controlling workers, exposure to a level of 200 ug/m³ in all segments of the cotton industry. OSHA published an Advanced Notice of Proposed Rulemaking on Cotton Dust requesting interested parties to submit comments on NIOSH's recommendations. 39 Fed. Reg. 44769. On December 28, 1976, two years after receiving comments from interested parties, OSHA proposed a 200 ug/m³ cotton dust standard. 41 Fed. Reg. 56498. The revised version called for a Permissible Exposure Level (PEL) of 200 ug/m³ line-free-respirable dust in yarn manufacturing, 700 ug/m³ in slashing and weaving and 500 on all other textile industries. OSHA held hearings in

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[3] As reecntly as 1969, textile industry trade publication, *Textile Reporter*, authored the following remarks:

> "we are particularly intrigued by the term 'byssinosis', a thing thought up by venal doctors who attended last year's [International Labor Organization] meeting in Africa, where inferior races are bound to be affected by new diseases more superior people defeated years ago." Textile Reporter, July 10, 1969.

The executive vice president of the Georgia Textile Manufacturer's Association once wrote to the President of Emory University in seeking to block the Bouhuy's study: "If this disease were prevalent among cotton textile employees, it would seem to me that at some time during my thirty-seven years in this industry, that fact would come to my attention during the hundreds of meetings and conferences of textile manufacturing employers which I have attended." Ex. 78, App. 4, p. 2. *See also*, Washington Post, at 1, November 28, 1980.

three cities for a total period of 14 days and received comments from 263 parties, 43 Fed. Reg. 27351. OSHA adopted a modified version of the proposal as the final rule. 43 Fed. Reg. 27350, 29 CFR § 1910.1043(b).[4]

ARGUMENT

I. INDUSTRY'S FORMULATION OF A COST-BENEFIT TEST WHICH QUALIFIES THE SIGNIFICANCE OF RISK IN LIGHT OF THE STANDARD'S COMPLIANCE COSTS IS NOT SUPPORTED BY THE STATUTE

Sixteen years after the ACGIH decided cotton dust exposure should be controlled, the American Textile Manufacturers Institute, Inc. (ATMI) urged this Court to reject the government's first effort to improve upon ACGIH's initial recommendation. As grounds, industry asserts that OSHA has totally failed to show that the benefits of improved regulations are justified in light of the costs to industry. This is, in essence, an attack upon OSHA's failure to perform an explicit cost-benefit analysis before promulgation of the cotton dust standard, 29 U.S.C. § 1910.1043.

ATMI admits that § 3(8) of the Act:

> . . . does not mean that OSHA must engage in a rigidly formed cost benefit calculation that places a dollar value on employee lives or health. ATMI Brief at 39

Instead, they argue that risks can only be "significant" in light of costs. ATMI Brief at 40-47, 48-51.

However, in urging reversal of the cotton dust standard for failure to place such an analysis in the record, the result is the same. If OSHA is required to directly

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[4] The final regulation sets permissible exposure limits of 200 ug/m^3 respirable cotton dust for yarning operations; 750 ug/m^3 respirable cotton dust for slashing and weaving operations; and 500 ug/m^3 for all other textile industries.

balance its assessment of the risks of exposure and any improvement in those risks with the industry compliance costs, then it must do so formally in the record. All methods of formula balancing require either explicit or implicit reduction of the two sides of the equation to comparable or unitary terms, *i.e.*, dollars.[5] This approach has only one name, cost-benefit analysis.

In making their argument, the industry petitioners fail to recognize that neither the statute, the legislative history nor the plurality opinion in American Petroleum Institute v. Marshall, 448 U.S. ——, 48 L.W. 5022 (1980), require or suggest a cost-benefit test is appropriate for occupational health standards.

A. The Language of the Act Will Not Support a Cost-Benefit Analysis Requirement

"The meaning of a statute must be ascertained from the language used by Congress. If the meaning is plain, the law must be enforced as written."[6] Section 6(b)(5), 29 U.S.C. § 655(b)(5) governs standards for hazardous substances. It states simply that:

> [T]he Secretary . . . shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or

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[5] In fact, ATMI openly suggests one life per year "might" be worth a one time cost of $100,000, but not $1 billion. ATMI brief at 38n. 75. If the statute does not require a "formal" analysis then this suggested benefit valuation cannot be a required basis of an OSHA decision.

[6] *See, United States* v. *Kelly*, 519 F.2d 251, 256 (8th Cir. 1975), citing *Helvering* v. *Hammell*, 311 U.S. 504, (1941); *United States* v. *Standard Brewery*, 251 U.S. 210 (1920). *See also, Caminetti* v. *United States*, 242 U.S. 470 (1917).

> functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life. . . .

Those words neither refer to, nor imply that OSHA must engage in any form of balancing of costs against benefits. Likewise, neither the definition of a standard, § 3(8), 29 U.S.C. § 652(8), nor any other section of the Act expressly requires that a cost-benefit analysis be done in promulgating regulations.[7]

Of course, "[t]he statutory language usually is the best evidence of congressional intent because 'we must assume that Congress meant what it said.' *United States* v. *Jones*, 607 F.2d 269, 273 (9th Cir. 1979)." *Accord*, *United States* v. *Dangdee*, 616 F.2d 1118, 1119 (9th Cir. 1980). There is no reason, in this case, to infer from the language that which cannot be literally read.

B. The Legislative History of the Act is Consistent with the Plain Meaning of the Statutory Language, Showing No Cost-Benefit Requirement

The legislative history supports the statutory language by not requiring a cost-benefit analysis.

As Senator Yarborough, then Chairman of the full committee that reported the bill, stated:

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[7] The Courts of Appeal are split on this issue of whether the "reasonably necessary or appropriate" language of § 3(8), 29 U.S.C. § 652(8) implies the need for a cost benefit test. *Compare*, *AFL-CIO* v. *Marshall*, 617 F.2d 636 (D.C. Cir. 1979), *appeal pending*, with *American Petroleum Institute* v. *OSHA*, 581 F.2d 493 (5th Cir. 1978), *aff'd on other grounds*, 448 U.S. —— (1980).

However, there are also two cases which hold the Secretary must engage in some form of cost balancing when *enforcing* a *non-toxic substance* standard. *RMI Company* v. *Sec. of Labor*, 594 F.2d 566 (6th Cir. 1979); *Turner Co.* v. *Sec. of Labor*, 561 F.2d 82 (7th Cir. 1977).

> We are talking about people's lives, not the indifference of some cost accountants. We are talking about assuring the men and women who work in our plants and factories that they will go home with their bodies intact. We are talking about assuring our American workers who work with deadly chemicals that when they have accumulated a few years' seniority they will not have accumulated lung congestion and poison in their bodies, or something that will strike them down before they reach retirement age. Subcommittee on Labor of the Senate Committee on Labor and Public Welfare, 91st Cong. 2d Sess., *Legislative History, Occupational Safety and Health Act of 1970*, 510 (1970) (Leg. Hist.)]

Congress was aware of the economic burden the Act would place on industry, but decided the protection of workers' health necessitated the expense. No legislator expressed the belief that the protection of workers' health should be compromised on the basis of cost-benefit analysis. In fact, the legislators expressed hostility to the use of cost as a general justification for unsafe or unhealthy working conditions. As Senator Eagleton stated, the costs of assuring such protection must be borne as "necessary costs of doing business". He added "[W]e can no longer permit profits to be dependent upon an unsafe or unhealthy worksite." [8]

C. The Benzene Decision by This Court Does Not Require OSHA Balance Health Risk Reduction Against Industry Compliance Costs

Last term, this Court affirmed the Fifth Circuit's vacating and remanding of an occuptional health standard for exposure to benzene. *American Petroleum Institute v. Marshall*, 48 L.W. 5022 (1980). This Court held that a universal policy of setting standards for exposure to carcinogens at the lowest level feasible was

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[8] Leg. Hist. at 1150-51 (remarks of Senator Eagleton).

inappropriate. The Stevens' plurality found that § 3(8), 29 U.S.C. § 652(8) placed substantive limitations on § 6(b)(5) of the Act, 29 U.S.C. § 655(b)(5), such that the Secretary must find:

> as a threshold matter, that this toxic substance in question poses a significant health risk in the workplace and that a new, lower standard is therefore 'reasonably necessary or appropriate to provide safe or healthful employment and places of employment.' [48 L. W. at 5024].

The essence of the plurality decision was that the Secretary made no assessment of the health-risks at the then current maximum levels of exposure, and therefore could not justify a finding that an improved standard was necessary. 48 L.W. at 5028.

Clearly, "significant risk" is an *absolute* concept insofar as costs are concerned. It is the significance of a risk which is necessarily a variable finding in light of health policies which allow for qualitative weighing of both the severity of risk *and* the probability of risk. *API* v. *Marshall*, 48 L.W. at 5033 n. 55, Leg. Hist. at 297.[9] Whatever balancing considerations must go into a determination that cotton dust poses "a significant risk of material impairment of health", cost is not one of them.

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[9] *See, National Congress of Hispanic American Citizens* v. *Marshall*, 626 F.2d 882, 889 (D.C. Cir. 1979) holding the Secretary may rationally decide to regulate the more severe hazards first.

See also, Ethyl Corp. v. *Environmental Protection Agency*, 541 F.2d 1 (D.C. Cir. 1976). The Court of Appeals held the EPA Administrator was required to regulate fuel additives if they "will endanger the public health or welfare" under 42 U.S.C. § 7857f-6c (c)(2)(A). *The Court then agreed that the phrase "will endanger" meant "presents a significant risk of harm."* 541 F.2d at 13. (emphasis added). The Court then went on to hold:

> the public health may properly be found endangered both by a lesser risk of greater harm and by a greater risk of a lesser harm. (541 F.2d at 15. (Citation omitted))

Justice Stevens created the concept of significant risk to force OSHA to justify the need for new regulation, not the manner of regulation. 48 L.W. at 5030.

D. If Congress Had Intended a Quantitative Cost-Benefit Analysis Under § 6(b)(5) of OSH Act it Would Have so Stated

The cost benefit concept has been used since early 20th Century by Congress, to assist government in making analogous decisions about government public works projects. An early example is The Flood Control Act of 1936, 33 U.S.C. § 701(a):[10]

> "[T]he Federal Government should improve or participate in the improvement of navigable waters . . . for flood-control purposes if the benefits to whomsoever they accrue are in excess of the estimated costs and if the lives and social security of people are otherwise adversely affected."

Historically Congress applied cost-benefit analysis to government projects, not to the development of regulations, properly noting that selecting and designing government projects, unlike regulations, involve tasks analogous to the investments of private firms.[11]

In two more recent statutes Congress has provided expressly that, in addition to being feasible, the regula-

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[10] Other examples of legislation requiring cost-benefit analysis are The Rivers and Harbors Act of 1902, Pub. L. No. 57-154, § 3, 32 Stat. 372 (1902) and Rivers and Harbors Act of 1920, Pub. L. No. 66-263, § 2, 41 Stat. 1010 (1920). Public work agencies have used cost-benefit analysis since the late 19th century. Baram, M., *Cost-Benefit Analysis: An Inadequate Basis for Health, Safety, and Environmental Decisionmaking*, 8 Ecology L. Q. 493 (1980).

[11] See, Rogers, W., *Benefits, Costs and Risks: Oversight of Health and Environmental Decisionmaking*, 4 HARV. ENV. L. REV., 191, 210 (1980).

tions promulgated under the statute should reflect a balancing of costs and benefit.[12]

Congress has even passed statutes which require a cost-benefit analysis for certain regulations, but not for others under the same statute.[13]

In the absence of a clear mandate to force OSHA to utilize cost-benefit methodologies, the Court should not

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[12] Energy Policy and Conservation Act of 1975, 42 U.S.C. § 6295 (c)(4)(D); Outer Continental Shelf Lands Act Amendments of 1978, 43 U.S.C. § 1347(b). The Energy Act provides that energy efficiency standards promulgated for certain products must not only be "economically feasible", but must, in addition, be such that "the savings in operating costs . . . outweigh" the adverse effects of the standard. Similarly, the Outer Continental Shelf Land Act Amendments provide that offshore drilling operations shall use:

> "the best available and safest technologies which the Secretary determines to be economically feasible, . . . except where the Secretary determines that the incremental benefits are clearly insufficient to justify the incremental costs of utilizing such technologies." [43 U.S.C. § 1347(b)]

[13] *E.g.*, the Federal Water Pollution Control Act Amendments of 1972, as amended, 33 U.S.C. § 1251 *et seq.*, specifies that in setting effluent limitations to be achieved by 1977, the Environmental Protection Agency ("EPA") must require the use of the

> "best practicable control technology currently available (§ 1311 (b)(1)), and further that EPA's 'assessment of [that] technology shall include consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from that application. . . .' [§ 1314(b)(1)(B)]. The latter requirement entails a 'limited cost-benefit analysis'." [118 Cong. Rec. 33696 (1972), discussed in *E.I. duPont de Nemours & Co.* v. *Train*, 430 U.S. 112, 129-130 (1977).]

Interestingly, the 1972 Amendments provide that the more demanding effluent limitations to be attained by 1983 should be based on "the best available technology economically achievable" (as amended, § 1311(b)(2)(A)), and under that provision, while costs are to be considered, "no balancing test will be required." 118 Cong. Rec. 22696 (1972). See *EPA* v. *National Crushed Stone Association*, —— U.S. ——, 49 LW 4008 (1980); *see, Weyerhaeuser Corp.* v. *Costle*, 590 F.2d 1011, 1044-46 (D.C. Cir. 1978).

require one. As Amici will show, such an approach would simply trade one set of problems for another.

II. APPLICATION OF COST-BENEFIT ANALYSIS TO OSHA STANDARDS IS INAPPROPRIATE

A cost-benefit analysis is one method of decisionmaking premised on the economic efficiency of competing alternative actions.[14] Economic efficiency is a concept which seeks to maximize the available resources in a free market economy assuming a particular distribution of income.[15] In the context of a cost-benefit analysis as to a public decision, efficiency is determined by a mathematical comparison between the dollar value of the benefits of a proposed action to its costs. The application of such an analysis to the process of promulgating occupational safety and health standards presents inherently difficult technical, methodological and moral problems. These problems are real and sufficiently well recognized that

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[14] The traditional definition of cost-benefit analysis is that it is a process which "involves translating the attributable performances into dollar quantities. *See,* Baram, M., *Cost-Benefit Analysis: An Inadequate Basis for Health, Safety, and Environmental Regulatory Decisionmaking,* 8 Ecology L. Q. 473 (1980). This definition had its origin in the simple profit and loss accountings of business organizations.

For others, the phrase:

> ". . . refers to the systematic analysis and evaluation of alternative courses of action drawing upon the analytical tools and insight provided by *economics* and decision theory. It is a framework and a set of procedures to help organize the available information, *displaying trade-offs* and pointing out uncertainties." See, National Academy of Sciences, Decisionmaking for Regulating Chemicals in the Environment 17, 39 (1975) (emphasis added).

However defined, cost benefit analysis is an issue of form.

[15] Rogers, W., supra at 194 n.18.

this Court should not infer them from the statute absent express Congressional guidance. *Cf.*, *Vermont Yankee Nuclear Power* v. *NRDC*, 435 U.S. 519 (1978).

A. Technical Deficiencies Militate Against the Use of Cost-Benefit Analysis to Promulgate Occupational Health Standards

The major technical shortcoming of cost-benefit analysis is a limited and often inconclusive data base available in public health matters.[16] Other technical problems include; disagreement among experts on methods for using data, lack of consensus as to findings and their applicability to problems at hand and unquantifiable attributes.[17] Still another technical problem is the difficulty in putting a value on low probability, high cost events in view of diverse and changing needs.[18] Another difficult problem is preventing interest groups from exerting pressure to promote their interest through formula adjustments.[19]

Traditional cost-benefit analysis requires identification, quantification, classification, and monetization[20] of the cost and benefits of a proposed action. Each step, however, is permeated with the practical problems mentioned above that make application of cost-benefit analysis in the OSHA context inappropriate.

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[16] *See, e.g.*, Chalfant, Hartmann & Blakeboro, *Recombinant DNA: A Case Study in Regulation of Scientific Research*, 8 Ecology L. Q. 55 (1979).

[17] Baram, M., *supra* at 483.

[18] *Id.* at 479.

[19] *Id.* at 480.

[20] Anderson, L. & Settle, R.R., *Benefit-Cost Analysis: A Practical Guide*, 1-2 (1977).

Characterization of costs and benefits is inherently difficult and subjective. Yet, identification of these is critical to the analysis. Inevitably, the analyst's personal values lead to different characterizations of an attribute.[21] Even where attributes are identifiable and characterizable, the decisionmaker still may exclude them from the calculations, if the contributions are too complex to measure, if the causal connection between action and attributes is tenuous, or if even they tilt the balances unfavorably.[22]

In the context of the cotton dust standard, the extent of byssinosis cannot be determined with sufficient precision for various reasons. There are a limited number of studies documenting the number of hazards faced by textile workers. 43 Fed. Reg. 27352-54. The extrapolations from the studies to the total work force were the subject of considerable controversy. 43 Fed. Reg. 27355-58. The intensity of the debate and the range of the numbers strongly suggest identification is a severe problem under these circumstances.

Assuming the actual risks could be accurately identified, complete quantification of the cotton dust standard's attributes would remain difficult. For reasons of convenience, benefit estimates are conservative and generally only represent direct income and medical cost savings.[23]

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[21] *See*, Tribe, *Technology Assessment and the Fourth Discontinuity: The Limits of Instrumental Rationality*, 46 S. Cal. L. Rev. 617 (1973).

[22] *See*, Lovins, Cost-Risk Benefit Agreement in Energy Policy, 45 Wash. L. Rev. 911 (1977).

See also, Alexander, M. & S., Disaster as a Necessary Part Of Cost-Benefit Analysis, 197 Sci. 1160 (1977).

[23] Mendeloff, J., *Regulatory Safety*, MIT Press, Cambridge, Mass. (1979).

They do not include the losses to workers and families associated with premature death, pain and suffering, gains to employers from improved productivity, reduced absenteeism due to illness and worker turnover.

It is impossible to measure the pain and suffering caused by this disabling disease.[24]

It is also impossible to calculate the dollar value of byssinosis-related disruptions to victims' lives.[25]

Of course, whether an item is a cost or benefit may well depend entirely upon one's perspective. In the absense of burden shifting laws, the entire society has been forced to absorb enormous costs due to the occupational disease. Increased costs to government through income maintenance and medical aid programs due to byssinosis greatly exceeded the estimated cost of the Cotton Dust Standard.[26]

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[24] Byssinosis victims describe the disease as feeling "like an accordian that had been played, you know, and was through—you were singing and playing and you were locked." Subcommittee of the Senate Committee on Appropriations, 95th Cong., 1st Sess., Special Hearing on Brown Lung (1978) "Like there was a band around my chest and back." *Id.* at 21. Another described it as a feeling "that I'm drowning." *Id.* at 21.

[25] Life at home is changed as the disease strains personal relations. What were considered life's necessities become impossible. One byssinosis victim noted that "I had gotten to where I wasn't able to go to church, I would be so sick." *Id.* at 21.

[26] *See*, Hughes, J., *Brown Lung Disability: Costs Compensation and Controversy An Explanatory Policy*, U.S. Dept. of Labor/ ASPER (June, 1979). This work contains a discussion of the government program costs due to Brown Lung disease. The author also discussed other cost items which should be included, but which generally are not, *e.g.*, loss of non-paid domestic work, loss due to early transfer to lower paying jobs, lost work days, etc. *Id.* at 11.

B. Monetizing Human Life Is a Necessary Part Of Any Overt Comparison of Health Benefit and Compliance Costs

Quantitative cost-benefit analysis requires valuing human life and other unquantifiable attributes, because both sides of any equation must be expressed in common terms. Cost-benefit analysis of health related decisions would be appropriate only if there was a socially acceptable method to measure both the cost and benefits and to express them in dollar terms.[27] But since there is no socially acceptable way to perform this reduction, then the analysis fails before it begins, or by definition is unacceptable as a method of agency decisionmaking. The mere act of *attempting* to engage in a cost-benefit analysis for occupational health regulations, does not make any easier the problems of making a value judgment about the worth of human life, distributional fairness and discount rate problems.[28] These problems are inherent in any effort to expressly balance costs against benefits even if the issues are not formally reduced to dollar numbers and compared as part of agency decisions on the promulgation of regulations.

Analysts in the field always have had serious difficulty in quantifying human life.[29] Some analysts re-

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[27] Baram, M., *supra*, at 483.

[28] The ATMI brief suggests a formal comparison of costs and benefit may have a "salutory effect", even if the result is not clearly useable. Yet ATMI cannot describe concretely how decisionmaking is improved by such comparisons. ATMI Brief at 40.

[29] No accepted figures for the value of life exist; nor should we expect them to exist . . . (F)actors such as age or occupation will influence the money value placed on costs incurred . . . (If) children and the poor are victims, remedial action may not seem justified from the calculation of cost-benefit ratios,

frain from placing their own value judgments on the value of human life and redirect their analysis [30] while others recommend caution in the use of cost-benefit analysis [31] or avoid quantification altogether,[32] Congress recognized the difficulty and deliberately excluded cost-benefit analysis from the OSH Act. This Court now has been called upon to second-guess Congress and decide whether a cost-benefit analysis is appropriate in addressing occupational health and safety problems. The cost-benefit approach is flawed by the philosophical problem of placing a dollar value on human life. Even if the Court should want to apply it to this occupational health standard, there is no generally acceptable method for putting a price tag on life.

In the occupational coke oven emission standard, OSHA recognized that no generally acceptable methodology exists for putting a price on life.[33] Several methods for valuing human life have been advanced.[34] The human capital

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when at the same time, if the victims had been of a differing age or income level, action would be more readily supportable."

Prunella, W., *A Quantative Assessment of Cost-Benefit Analysis and Its Application in the Area of Product Safety* 3-4 (report submitted to Consumer Product Safety Commission—Economic Program Analysis Division, Feb. 1978).

[30] *See,* Chalfant, Hartmann & Blakeboro, *supra*; Lawrence, W., *Of Acceptable Risk* (1976).

[31] Baram, M., *supra,* at 482 n. 38.

[32] *Id.*, at 483 n. 39.

[33] 41 Fed. Reg. 46742.

[34] Additional approaches may be termed the "willingness to pay model" and the "statistical life method". Under the former, a life is worth the price affected groups are willing to pay to preserve that life. The method depends on the income distribution of the group at the time the decision is made. Ruttenberg, R., Regulatory Controversy: The Case of Health and Safety. 4-5 (unpublished paper) Feb. 1980.

The basic principle of the statistical life method, is whether it is acceptable to place a value on a small risk of dying based on sup-

approach is generally used. Under this system an employed person is viewed as the sum of the lifetime stream of output. That is, this model values human life on the basis of an individual's estimated earnings capacity over his remaining lifetime. This approach excludes all intangibles and under-values some groups relative to others because earnings do not necessarily reflect one's ability to produce. The human capital model also mirrors the discrimination in today's society. Based solely on earnings potential, men as a group are more valuable than women, white more valuable than blacks and middle age persons are more than the very young and those who have retired.

Another technical concern relates to the choice of a discount rate. A cost benefit analysis would force the agency to trade future lives lost for costs today through the selection of a discount rate. It is obviously inappropriate for OSHA to be empowered to select the rate at which long-run levels of mutagenic, carcinogenic or toxic effects from hazardous substances are chosen for generations to come. Congress and the courts have not yet decided on a standard value for future dollar levels of given attributes. If a cost-benefit analysis were required of OSHA, this failure would abdicate this legislative decision to individual analysts.

Any quantitative cost-benefit balancing test is clearly subject to abuses. Users of the test can play the numbers

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posed wage premiums and then multiply that value by the inverse of the risk in question to find the value of life. If workers are willing to accept a 1 in 1,000 increase in the risk of dying each year for a wage bonus of $200 then the value of human life is said to be $200,000. The flaw in this approach is that it assumes that people can accurately and knowledgeably measure small risks. Adams, J.G.U. . . . *And How Much For your Grandmother?* 6 Environment and Planning A 619 (1974).

The users of the statistical life method must also presume that workers possess sufficient economic power to bargain with employers over the wage premium.

game to arrive at decisions promoting their best interest.[35] By manipulating the discount rate, assigning arbitrary values to identified attributes, excluding attributes that may tilt the scale against preferred action and using self-serving assumptions about distributional fairness, analysts confirm pre-selected opinions instead of analyzing options.[36] This new realm of legislative policymaking should be given to OSHA absent specific congressional guidelines. *Cf., Vermont Yankee Nuclear Power* v. *N.R.D.C.*, 435 U.S. 519 (1978).

OSHA amply explained the reasons for rejecting formal cost-benefit analysis. In the statement accompanying promulgation of the coke oven emissions standards, 41 *Fed. Reg.* 46742 at 46748-46751, summarized and incorporated by reference in the cotton dust preamble, 43 *Fed. Reg.* 27379, the agency fully discussed the shortcomings of the formal methods, why Congress refused to require their use, and why, to the extent the matter is left to OSHA's discretion, the agency declines to use them.

In the case of the cotton dust standard, the evidence in the record indicates that the costs of compliance are not overly burdensome to industry. Having determined that the benefits of the proposed standard are likely to be appreciable, OSHA is not obligated to carry out further

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[35] Note, *The Concorde Calculus*, 45 Geo. Wash. L. Rev. 1037 (1977). The article examined the utility of cost benefit analysis in agency decisionmaking by analyzing former Secretary of Transportation William T. Coleman's decision to permit limited commercial service to United States by Anglo-French Concorde supersonic transport (SST). It suggests that although cost benefit analysis endowed the Concorde decision with an aura of legality and legitimacy, the nature of the issues in the Concorde decision were not determined by the cost benefit analysis, but rather was a subjective policy choice on which the focus of decisionmaking authority determined the results of the analyses.

[36] Zimmerman, B., *Risk-Benefit; The Cop-out of Governmental Policy*, 14 Trial 42, 46 (1978):

exercises toward more precise calculations of benefit which would not significantly clarify the ultimate decision. Previous attempts to quantify benefits as an aid to decision making in setting health standards have not proved fruitful. 41 *Fed. Reg.* 46742.

III. THE LOWER GRADES OF BROWN LUNG DISEASE ARE MATERIAL IMPAIRMENTS OF HEALTH AND FUNCTIONAL CAPACITY AND WERE THEREFORE PROPERLY A BASIS FOR REGULATION

In an effort to affect the outcome of their proposed balancing test, petitioners argue that the only adverse health effects which are permanently and irreversibly disabling are "material impairments of health". They would draw the conclusion therefrom that the standards should not be set to prevent the early stages of occupational disease.

Specifically, ATMI urges that this Court not consider the early stages (Grades 1/2, 1 and 2) of byssinosis to be material impairments of health because the symptoms, disabilities and decreased lung functions are reversible at those stages. *See*, ATMI Brief, at 49, *AFL-CIO* v. *Marshall*, 617 F.2d at 654. While the Court below did not address the issue of whether the lowest grade standing alone constitutes an impairment, 617 F.2d at 654 n.83, it is an important question before this Court.[37] The implications are far reaching. The ATMI approach would forever exclude reversible damage, early stages or non-disabling effects of disease from

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[37] ATMI argues that since the low grades of diagnosed byssinois should not be considered material impairment, they are not harms which can be regulated. Unregulable harms, they argue, cannot give rise to cognizable benefits. The effect of this conclusion is to alter the outcome of the balancing task in which petitioners assert the Secretary should have engaged. ATMI Brief at 50-51.

(a) being overtly regulated and (b) being added on the benefit side of any balancing.

This is clearly contrary to any meaningful reading of the terms "material impairment of health" in § (6) (b) (5) and in the legislative history.

The legislative history of the Occupational Safety and Health Act of 1970 contains explicit references to cotton dust as an example of a hazard Congress wanted OSHA to regulate. The Senate report on the original Williams bill refers to the age of the cotton dust problem, and the fact that 100,000 active or retired workers were currently suffering from byssinosis. S. Rep. 91-1282, Leg. Hist. at 143. Several senators and representatives also commented that cotton dust exposure should be regulated.[38]

Congress also contemplated that progressive health problems would be regulated by OSHA before they became permanently disabling or fatal. Senator Dominick, who drafted the change in § 6(b) (5) from "any impairment" to "any material impairment" stated *after* he proposed the change:

> What we were trying to do in the bill . . . was to say that when we are dealing with toxic agents or physical agents, we ought to take such steps as are feasible and practical to provide an atmosphere within which a person's health and safety would not be affected. [Leg. Hist. at 602 (emphasis added)].

Senator Williams, Senate sponsor of the legislation, accepted the proferred Dominick amendment and also agreed with another statement by Senator Dominick that:

> the Secretary has got to use his best efforts to promulgate the best available standards, . . . so that we

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[38] *E.g.*, Senators Muskie, Hart, *Leg. Hist.* at 513, 517; and Representatives Daniels, Udall, *Leg. Hist.* at 1002, 1045.

> can get at something which might not be toxic now, if he works in it a short time, but if he works in it the rest of his life it might be very dangerous. [*Leg. Hist.* at 503].

These comments among others,[39] strongly suggest Congress wanted toxic substance risks to be regulated before any symptoms occurred, choronic or acute, and wanted standards to protect workers for their full working lives. It is, therefore, irrelevant to the materiality of a risk, that the symptoms and objective dysfunctions associated with a disease in the early stages may be reversible, or even so mild and complex that the patient himself does not know he or she is sick. *Accord: United Steelworkers of America* v. *Marshall*, —— F.2d ——, 8 BNA OSHC 1810, 1853-53:[40]

> Section 6(b)(5) empowers OSHA to get a PEL that prevents the subclinical effects of lead that lie in a continuum shared with overt lead disease. [8 BNA OSHC at 1853].

In this case, OSHA found that the early stages of byssinosis were part of "a continuum of disease", 43 Fed. Reg. 27354. OSHA found persuasive "arguments for adopting a cotton dust regulation which protects workers from the acute consequences of cotton dust exposure" [*id.*], because the stages of acute symptoms and

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[39] See Comments of Senator Yarborough Amici, at 9.

Senator Hart also spoke in favor of the amended bill noting some substances "gradually eat away as [workers'] vitality leaving them often victims of *painful* diseases, such as emphysema, byssinosis, and asbestosis. *Leg. Hist.* at 517 (emphasis added).

[40] But see, *Texas Independent Ginners Assn.* v. *Marshall*, —— F.2d ——, 8 BNA OSHC 2205.

reversible losses of lung function were "precursors of chronic obstructive pulmonary disease." *Id.* The Court below expressly upheld OSHA's progressive disease analysis. *AFL-CIO* v. *Marshall*, 617 F.2d at 654.

The petitioners' brief, before this Court, accepts this analysis.

> "Although it is not known what component of cotton dust causes byssinosis there is general agreement that some workers exposed to high enough concentrations of cotton dust will develop some symptoms of Grade 1/2 byssinosis and that, *if exposure continues for long enough* the condition could progress, over time, to the more severe chronic and disabling stage." [ATMI Brief at 5-6 (emphasis added)]

Even if the "progressive" nature of byssinosis were not clearly established, the earlier quoted legislative history would support the regulation of painful and incapacitating symptoms and lung function losses of the earlier grades of byssinosis. Amici at 9, 22, 23. Those problems were clearly established in the record [41] and

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[41] In addition to their irritative stage, NIOSH found

> "temporary disablement" stage which can cause "temporary incapacity with intervals of absence from work, which are of short duration but increases in frequency and level in time to partial incapacity." As well as a "total disablement" stages where chronic bronchitis and emphysema exist". This condition is "incurable" and may "lead ultimately to cardiac failure."

Criteria Document at 25-26.

NIOSH also stated that asymptomatic individuals who have reproducible 10% or greater decrement in a Forced Expiratory Volume Test should be managed as if they have byssinosis. *Criteria Document* at 31.

referenced in OSHA's statement of reasons. 43 Fed. Reg. 27361-54.[42]

From a worker's point of view, any "impairment" of health which forces him or her to cease work for even short periods of time, is a "material impairment of health". Similarly, any loss of one's breathing function which slows oxygen intake into the body and may be accompanied by pain or "chest constriction" is a "material impairment" of "functional capacity". OSHA found both problems to exist at the earlier stages. 43 Fed. Reg. 27362, 54.

Since the statute is designed to "assure so far as possible every working man and woman in the nation safe and healthful working conditions", § 2(b), 29 USC 651 (b), the issue of "material impairment" should be governed from the perspective of those to be protected. The Secretary should be given sufficient discretion to make the policy determination of materiality contemplated by the statute given his obligation to interpret and apply the statute. *Whirlpool Corp.* v. *Marshall*, —— U.S. ——, 8 BNA OSHC 1001 (1980).[43]

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[42] The difference between Grade 3 and Grade 2 is the controlability of the symptoms. The difference between Grade 2 and Grade 1 is the frequency with which these conditions are experienced while at work. Petitioners implicitly support this view when they argue that "a person exhibiting Grade 1/2 symptoms is not sick, impaired or disabled" but do not so argue for victims of Grades 1 and 2. ATMI Brief at 5.

[43] The Secretary may put "gloss on the Act" so long as it is not inconsistent with the language, structure and legislative history. 8 BNA OSHC at 1004.

IV. CONCLUSION

For the above stated reasons, this Court should affirm the decision below.

Respectfully submitted,

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